CLASS X WORKSHEET (JULY)

ENGLISH

Q1. Write a letter to the Editor of a national daily expressing your concern over the increasing noise pollution in your locality and suggesting ways to control it.
(Word Limit: 100–120 words)
Q2. Read the questions carefully and choose the correct option.

a. What is Coorg famous for?
A. Coffee plantations and spices B. Historical monuments
C. Lakes and rivers   D. Oil fields
b. What is the main occupation of the people in Coorg?
A. Fishing B. Tea cultivation C. Coffee cultivation D. Tourism

c. What was the baker in Goa called during the Portuguese days?
A. Pader B. Pasteur C. Padri D. Patrao

d. What is one similarity between the Coorgi people and their army traditions?
A. They both wear turbans.
B. They both speak Portuguese.
C. Coorgis are permitted to carry firearms without a license.
D. They both engage in farming.

e. What legend is associated with the discovery of tea in China?
A. A child found tea leaves in the forest.
B. A Chinese emperor discovered tea when leaves fell into his boiling water.
C. A farmer drank rainwater mixed with leaves.
D. A bird dropped tea leaves in a cup.

Q3. *"Mijbil was neither dog nor cat, but a mixture of both."*
Based on this line and your understanding of the story, describe Mijbil's behaviour in the new environment.

Q4. Imagine you are the narrator. Describe one major challenge you faced while traveling with Mijbil and how you handled it.
Q5. Read the extract and answer the questions that follow:
a. "All night the roots work
to disengage themselves from the cracks
in the veranda floor."
a. What is the significance of the roots working all night?
b. What does the phrase "disengage themselves" suggest about the trees' condition?
c. Explain how this extract reflects the central theme of the poem.

b. "The forest that was empty all these days
Where no bird could sit
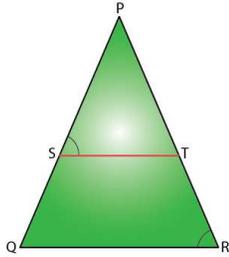*No insect hide*
No sun bury its feet in shadow—"

a. What is being described as empty, and why?
b. What literary device is used in "no sun bury its feet"? Explain its effect.
c. How does this extract connect with the idea of freedom in the poem?
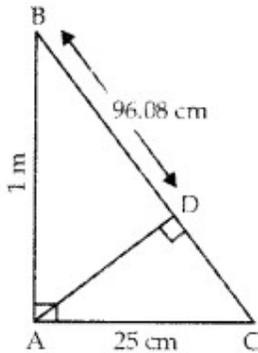
हिंदी

1. मीराबाई भक्ति के विषय में क्या संदेश देना चाहती है?

2. कवि ने किन पंक्तियों में यह व्यक्त किया है कि हमें गर्व- रहित जीवन व्यतीत करना चाहिए?

3. मनुष्यता कविता के माध्यम से कवि समाज को क्या संदेश देना चाहता है?

4. शाल के वृक्ष भयभीत होकर धरती में क्यों धँस गए ।

5. 'पर्वत प्रदेश में पावस' कविता में पर्वतों को ' मेखलाकार' पर्वत 'अपार' कहने का कवि का क्या अभिप्राय है स्पष्ट कीजिए ।

6. कंपनी बाग में रखी तो क्या सीख देती है?

7. कोलकाता में मोनुमेंट के निकट सभा क्यों हो रही थी? उसे 'ओपन लड़ाई ' क्यों कहा गया?

8. क्रोध में तताँरा ने क्या किया और इसका क्या परिणाम निकाला?

9. प्राचीन समय में मनोरंजन के लिए किस प्रकार का आयोजन हुआ करता था?

10.'प्रेम रूढ़ियों का बंधन नहीं' तताँरा- वामीरो कथा के आधार पर सिद्ध कीजिए ।

11. निम्नलिखित वाक्यों में से निर्देशानुसार पदबंध चुनकर लिखिए।

क) गांव में एक संत सुबह शाम ठाकुर जी की पूजा करते थे। (क्रिया पदबंध)

ख) कमर झुकाकर चाजीन ने हमें प्रणाम किया। (सर्वनाम पदबंध)

ग) वामीरो इधर-उधर दृष्टि दौड़ना नहीं बोलती थी। (क्रिया विशेषण पदबंध)

घ) बचपन की यादें मां को गुदगुदाने वाली होती हैं । (संज्ञा पदबंध)

12. निम्नलिखित वाक्यों के भेद बताते हुए कारण स्पष्ट कीजिए।

क) अचानक वामीरो कुछ सचेत हुई और घर की तरफ दौड़ पड़ी ।

ख) भाई साहब स्वभाव से बड़े अध्ययनशील थे।

ग) हरिहर काका अनपढ़ थे लेकिन दुनिया की बेहतर समझ रखते थे

घ) दिमाग में जब स्पीड का इंजन लगा दिया जाता है , तब वह हजार गुना अधिक रफ्तार से दौड़ने लगता है।

13. निम्नलिखित समस्तपदों में प्रयुक्त समास का नाम लिखिए।

   चौराहा,   जीवन-मरण ,   चंद्रमुख,   गजानन,   ऊंच-नीच

14. निम्नलिखित मुहावरों के अर्थ लिखिए।

   आड़े हाथों लेना,   मौत से गले मिलना,   निराशा के बादल फटना,   जी-जान से झुकना

15. 'वास्तव में हर वस्तु अपनी जगह महत्वपूर्ण होती है। एक का काम दूसरा नहीं कर सकता ।..........पंक्ति से लगभग 100 शब्दों में लघु कथा लिखिए।

MATHEMATICS

1. In the given figure, PS/SQ = PT/TR and ∠ PST = ∠ PRQ. Prove that PQR is an isosceles triangle.

2. If ΔABC ~ ΔQRP, area (ΔABC) / area (ΔPQR) =9/4, AB = 18 cm and BC = 15 cm, then find PR.
3. If the areas of two similar triangles are equal, prove that they are congruent.

4. Sides of triangles are given below. Determine which of them are right triangles. In case of a right triangle, write the length of its hypotenuse.

   a) 7 cm, 24 cm, 25 cm
   b) 3 cm, 8 cm, 6 cm
5. The sides of two similar triangles are in the ratio 7 : 10. Find the ratio of areas of these triangles.
6. In an equilateral ΔABC, D is a point on side BC such that BD = (⅓) BC. Prove that $9(AD)^2 = 7(AB)^2$.
7. A girl walks 500 m towards east and then 1200 m towards north. Find her distance from the starting point to the destination.
8. In the given figure, ∠CAB = 90° and AD ⊥ BC. If AC = 25 cm, AB = 1 m and BD = 96.08 cm, then find the value of AD.

9. ΔABC is such that AB = 3 cm, BC = 2 cm and CA = 2.5 cm. If ΔDEF ~ ΔABC and FE = 4 cm, then find the perimeter of ADEF.
10. Find the length of an altitude of an equilateral triangle of side a.

SCIENCE

1. An incident ray makes an angle 35⁰ with the surface of a plane mirror. What is the angle of reflection?
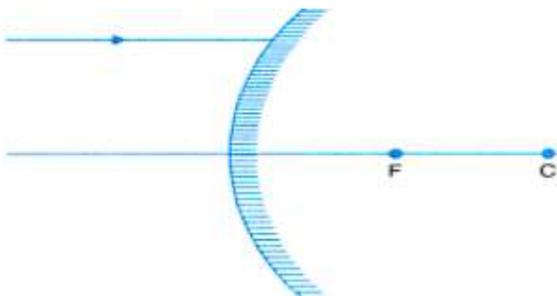
2. Name the spherical mirror which:

(a) has a positive focal length   (b) always forms a virtual image

3. The outer surface of a hollow sphere of aluminium of radius 50 cm is to be used as a mirror. What will be the focal length of this mirror? Which type of spherical mirror will it provide?

4. Redraw the diagram given below in your answer book and show the direction of the light ray after reflection from the mirror.
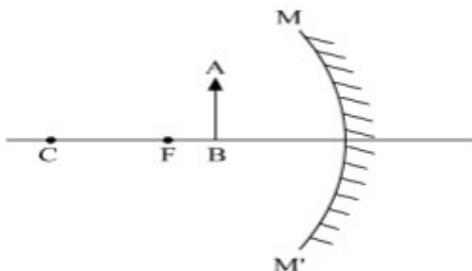

5. What is the nature of the image formed by a concave mirror if the magnification produced by the mirror is: (a) +3   (b) -1

Predict the size of image in both the cases.

6. List two possible ways in which a concave mirror can produce a magnified image of an object placed in front of it. State the difference, if any, between these two images

7. An optical device has been given to a student and he determines its focal length by focusing the image of a sun on a screen placed 24 cm from the device on the same side of the sun. (a) Name the optical device (b) Find its focal length.

8. Draw the following diagram in your answer book and show the formation of image of the object AB with the help of suitable rays.

SOCIAL SCIENCE

I. Multiple choice question:

1. MGNREGA guarantees job to poor for …………..
   (a) 100 days   (b) 90 days   (c) 60 days   (d) 50 days

2. The type of unemployment in which a greater number of people work than actually needed is known as ………………………………..
   (a) disguised unemployment   (b) seasonal unemployment   (c) under employed

3. A labourer working under a contractor, is in which type of sector?
   (a) Public sector   (b) Unorganised sector   (c) Service sector   (d) None of these

4. Which of the following methods have been changed depending upon the characteristics of physical environment, technological know-how and socio- cultural practice?
   (a) Industrial activity   (b) Irrigation Pattern   (c) Cultivation   (d) None of these

5. Jhumming in Brazil is called………………….
   (a) Ladang   (b) Masole   (c) Roca   (d) None of these

6. What is 'Boro'?
   (a) Kharif crop   (b) Zaid crop   (c) Rabi crop   (d) None of these

7. Ragi is very rich in …………………………………
   (a) Zinc   (b) Iodine   (c) Iron   (d) Phosphorous

8. ………………………………….is a slash and burn agriculture.
   (a) Extensive farming   (b) Commercial subsistence farming   (c) Jhumming   (d) None of the above

9. For irrigation, most of the Indian farmers depend on …………………………….
   (a) reservoirs   (b) rivers   (c) monsoon   (d) tube wells

10. The crops grown in Rabi season are ……………………………..
    (a) wheat, peas, barley and mustard   (b) rice, jute, maize, soyabean
    (c) pulses, melons, vegetables   (d) sugarcane and tobacco

11. Which of the following farming practice depends upon monsoon, natural fertility of the soil and suitability of other environmental conditions?
    (a) Commercial farming   (b) Intensive subsistence farming   (c) Primitive subsistence farming   (d) Plantation

12. Which type of agriculture practice is famous in North- Eastern states like Assam, Meghalaya, Mizoram and Nagaland?
    (a) Jhumming   (b) Slash and burn farming   (c) Commercial farming   (d) Subsistence farming

13. What population of India is engaged in agricultural activities?
    (a) Two-Third   (b) Three-Fourth   (c) One-Fourth   (d) Two-Fourth

II. Answer the following:

1. Give any two examples of informal sector of credit.
2. Highlight the inherent problem, in double coincidence of wants.
3. Why can one not refuse a payment made in rupees in India?

4. What is the meaning of barter system?
5. How does money act as a medium of exchange?
6. What is a cheque?
7. Who supervises the functioning of the formal sourcesof loans?
8. What are the two forms of modern currency?
9. What is collateral?
10. Define credit.
11. When we produce goods by exploiting the natural resources, in which category of economic sector such activities come?
12. What does GDP stand for?
13. In which sector are many workers losing their jobs since 1990?

ARTIFICIAL INTELLIGENCE

1. In which type of machine learning is the data labeled with the desired output?
a) Supervised Learning   b) Unsupervised Learning
c) Reinforcement Learning   d) Deep Learning

2. An email spam filter that learns to identify spam emails based on labeled examples is an application of:
a) Supervised Learning   b) Unsupervised Learning
c) Reinforcement Learning   d) Transfer Learning

3. A machine learning algorithm that groups similar customer purchases into clusters for recommendation systems uses:
a) Supervised Learning   b) Unsupervised Learning
c) Reinforcement Learning   d) Neural Networks

4. An AI agent playing a game and learning from its rewards and penalties is an example of:
a) Supervised Learning   b) Unsupervised Learning
c) Reinforcement Learning   d) Evolutionary Learning

5. Which of the following statements is NOT true about supervised learning?
a) Requires labeled data for training.   b) Used for classification and regression tasks.
c) Can be less efficient for large datasets.   d) Often used in image recognition applications.

6. In an unsupervised learning scenario, the goal is to:
a) Predict a specific output based on labeled data.
b) Identify patterns and relationships within unlabeled data.
c) Train an AI agent through rewards and penalties.
d) Develop complex neural network architectures.

7. Clustering algorithms are commonly used in unsupervised learning for:
a) Spam filtering   b) Image classification
c) Stock price prediction   d) Grouping similar data points

8. Reinforcement learning is particularly useful for scenarios where:
a) Large amounts of labeled data are available.
b) The desired outcome is clear, but the path to achieve it is unknown.
c) The data is structured and easily categorized.
d) The task requires reasoning and logical deduction.

9. Imagine an AI playing a game and learning to win by trial and error. This is an example of:
a) Supervised Learning   b) Unsupervised Learning
c) Reinforcement Learning   d) Natural Language Processing

10. Artificial neural networks are inspired by the structure and function of:
a) The human brain   b) Quantum computers
c) Complex mathematical models   d) High-speed processors

Answer the following questions:

Q1. Give difference between rule based and learning based AI models.

Q2. What is supervised, unsupervised and reinforcement learning? Explain with examples.

Q3. What is clustering and how is it different from classification?

Q4. Explain neural networks. Also give functions of three layers of neural networks.

Q5. Differentiate between classification and regression model.

Q6. What is neural network? Give the functioning of its three layers?

Q7. Identify the type of learning (supervised, unsupervised, reinforcement learning) are the following case studies most likely based on?

a) Case Study 1: A company wants to predict customer churn based on past purchasing behavior, demographics, and customer interactions. They have a dataset with labeled examples of customers who churned and those who did not.

b) Case Study 2: A social media platform wants to group users based on their interests and behavior to recommend relevant content. They have a large dataset of user interactions but no predefined categories. Which type of learning is this case study most likely based on?

c) Case Study 3:An autonomous vehicle is learning to navigate through a city environment. It receives feedback in the form of rewards for reaching its destination safely and penalties for traffic violations. Which type of learning is this case study most likely based on?

d) Case Study 4: A healthcare provider wants to identify patterns in patient data to personalize treatment plans. They have a dataset with various patient attributes but no predefined labels indicating specific treatment plans. Which type of learning is this case study most likely based on?

e) Case Study 5: A manufacturing company wants to optimize its production process by detecting anomalies in sensor data from machinery. They have a dataset with examples of normal and anomalous behavior. Which type of learning is this case study most likely based on?

INFORMATION TECHNOLOGY

Section A: Multiple Choice Questions

1. Which software is used in for learning DBMS?
   a) MS Access   b) LibreOffice Base   c) Excel   d) Notepad
2. What is a database?
   a) A collection of worksheets
   b) A collection of related data
   c) A folder of files
   d) A backup system
3. In a table, each row is called a:
   a) Field   b) Column   c) Record   d) Data
4. Which of the following is a valid data type in LibreOffice Base?
   a) Picture   b) Text   c) Slide   d) Video
5. Which view allows you to define the structure of a table?
   a) Table View   b) Datasheet View   c) Design View   d) Form View
6. Which key is used to uniquely identify each record in a table?
   a) Unique Key   b) Foreign Key   c) Primary Key   d) Table Key
7. Which of these allows user-friendly data entry?
   a) Form   b) Query   c) Report   d) Filter
8. What is the default file extension of a LibreOffice Base file?
   a) .docx   b) .xlsx   c) .odb   d) .dbm
9. Which component is used to get specific information from a database?
   a) Table   b) Form   c) Report   d) Query
10. In which view can you see all the records in a table?
    a) Design View   b) Datasheet View   c) SQL View   d) Slide View

Section B: Short Answer Type Questions

Answer the following in 2–3 lines.

1. Define a Database Management System (DBMS).
2. What is the difference between a field and a record?
3. Write any two advantages of using a DBMS.
4. What is a Primary Key?
5. What is the use of a Query in DBMS?
6. What is a Form in LibreOffice Base?
7. Name any two components of LibreOffice Base.
8. Mention two data types used in LibreOffice Base.
9. Write the steps to create a new table in Design View.
10. What is the use of Reports in a database?